

# INTERNATIONAL SEARCH REPORT

In International Application No  
PCT/US 98/27885

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 6 H01J37/32

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

IPC 6 H01J

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No
A	US 5 234 529 A (JOHNSON WAYNE L) 10 August 1993 cited in the application see column 2, line 41 - column 4, line 6; figures 1-8 ---	1-54
A	US 5 650 032 A (FORSTER JOHN CURT ET AL) 22 July 1997 see column 5, line 34-51; figures 8,9 ---	1-54
P, X	WO 98 48444 A (TOKYO ELECTRON ARIZONA INC) 29 October 1998 see abstract see page 6, line 18-27; figures 1-9 see page 13, line 1-22 see page 15, line 3-17 ---	1-5 -/-

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

**Special categories of cited documents:**

- "A" document defining the general state of the art which is not considered to be of particular relevance
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- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
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- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- "3" document member of the same patent family

Date of the actual completion of the international search

21 April 1999

Date of mailing of the international search report

06/05/1999

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication where appropriate, of the relevant passages	Relevant to claim No
A	US 5 449 433 A (DONOHOE KEVIN G) 12 September 1995 cited in the application -----	

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## Information on patent family members

In: International Application No

PCT/US 98/27885

Patent document cited in search report	Publication date	Patent family member(s)		Publication date
US 5234529	A 10-08-1993	NONE		
US 5650032	A 22-07-1997	JP 8339897 A		24-12-1996
WO 9848444	A 29-10-1998	US 5800688 A		01-09-1998
		AU 6977998 A		13-11-1998
US 5449433	A 12-09-1995	NONE		